

Water Surplus and Drought Management Plan on water supply and demand as of December 18, 2008

Summary

This is a monthly report providing updates on CY 2009 regional water supply and demand conditions and potential actions under the Water Surplus and Drought Management Plan (WSDM Plan). This month's report also includes a summary of water supply, demand, and WSDM actions taken in CY 2008. The WSDM Plan provides the overall strategy for managing Metropolitan's resources to meet the range of estimated demands for the calendar year. This report considers conditions as of December 18, 2008. Staff will provide oral updates to this report at the monthly meeting of the Water Planning and Stewardship Committee. The following are report highlights for this month:

- Estimated January 1, 2009 WSDM Storage Balance: 1.08 MAF
- SWP (Current 15 percent Table A allocation) and CRA Base Supplies: 1.13 MAF
- Projected WSDM Storage Withdrawal Capacity Available at Current 15% SWP Allocation: 581 TAF
- Five Year Supply Plan Resource Options identified for CY 2009: 496 TAF to 1.06 MAF
- CY 2009 Current Trend Total Demand: 2.22 MAF

Attachments

[Attachment 1: Projected CRA and SWP Supplies for CY 2009](#)

[Attachment 2: Projected WSDM Supplies for CY 2009](#)

[Attachment 3: 2009 Potential Resource Options](#)

[Attachment 4: Summary of CY 2008](#)

Detailed Report

This letter is the first in a series of monthly WSDM Plan updates on the developing water supply and demand conditions for CY 2009. These reports will apprise the Board of conditions that may impact water supply reliability for CY 2009, and identify any potential WSDM actions that may be required. From January through May, imported supplies from the State Water Project (SWP), Colorado River Aqueduct and Los Angeles Aqueduct, as well as demands, are highly variable due to weather conditions. This report also includes a summary of CY 2008 supply and demand.

2009 Water Supply and Demand Balance

Colorado River Aqueduct

Staff's estimate of Colorado River supplies for CY 2009 is approximately 819 TAF acre-feet, based on the anticipated initial 2009 diversion schedule of Metropolitan's approved water order from the U.S. Bureau of Reclamation. This schedule includes Metropolitan's Basic Apportionment (550 TAF) and all other Colorado River supplies developed to date, including water transfers, that are diverted at Metropolitan's intake at Lake Havasu. A detailed listing of the Colorado supplies is included as [Attachment 1](#).

State Water Project

On December 16, 2008 the California Department of Water Resources (DWR) released an updated water allocation study that supports the 15 percent Table A allocation announced in October. This 15 percent allocation is reflective of the following system storage and hydrologic conditions to date: Lake Oroville storage is approximately 28 percent full, the 2008 runoff forecast is 60 percent of normal and the Northern Sierra snowpack is 34 percent of normal. The

Date of Report: December 18, 2008

Board Report (Water Surplus and Drought Management Plan on water supply and demand as of December 18, 2008)

updated allocation study also includes SWP operational constraints and Delta export restrictions resulting from the Draft Operations Control and Plan (OCAP) Biological Opinion on Delta smelt, which will supercede Federal District Court Judge Oliver Wanger's interim remedy order. Initial review of the OCAP Biological Opinion shows that, although the initial Table A allocation will likely not be affected, additional water supplies that would result from increased snowpack and runoff will likely not be available, increasing the risk of having a low final Table A allocation. DWR will continue to review hydrologic and storage conditions on a monthly basis and update the SWP allocation, as appropriate, throughout the year.

Under a 15 percent Table A allocation, Metropolitan will receive Table A supplies of 277 TAF. Metropolitan would also take delivery of 36 TAF from Metropolitan's transfer and exchange agreements with the Desert Water Agency and Coachella Valley Water District and the City of Port Hueneme. Total CY 2009 SWP contract supplies under the initial allocation are projected at 314 TAF. A detailed listing of SWP supplies is contained in [Attachment 1](#), and includes the projected SWP supply at both a 15 and 50 percent allocation. This is provided to illustrate the potential range in SWP supply that is possible with anticipated further allocation adjustments.

Water Demands

Water demands for calendar year 2009 are projected to be 2.22 MAF at the current trend, with a range of 1.64 MAF under wet/cool conditions to 2.80 MAF under hot/dry conditions. This range of estimated demand reflects that water sales under the replenishment program will have been discontinued for two years and that groundwater agencies may be more reliant on firm imported water supplies. The demand also reflects that water sales under the Interim Agricultural Water Program are reduced by 30 percent. The total demands do not include deliveries of water as part of the exchange with Desert Water Agency and Coachella Valley Water District (DWCV). At this time, Metropolitan intends to recover water stored in the Advance Delivery Account to meet the obligations under this exchange. If the SWP Table A allocation exceeds 30%, Metropolitan will be obligated to deliver portion of the obligation from its CRA supply.

WSDM Supplies and Management Actions

WSDM Storage Portfolio

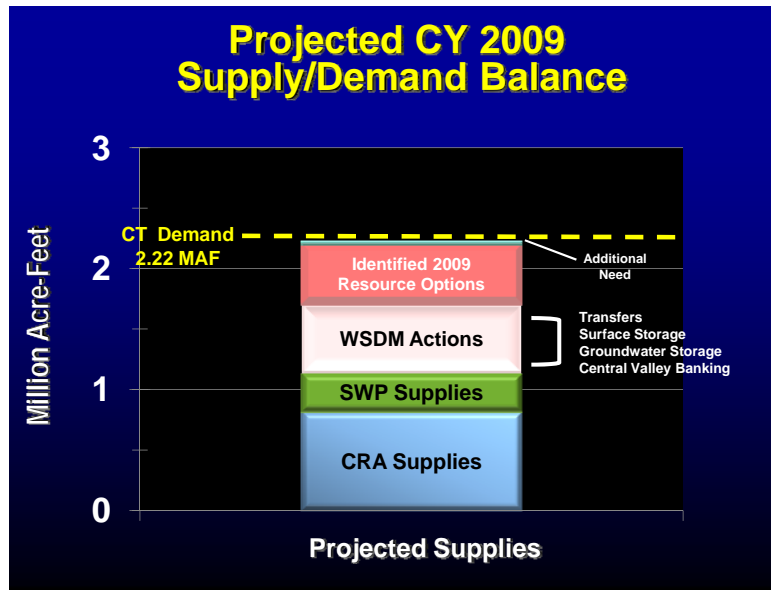
In addition to base CRA and SWP supplies, Metropolitan has a total of approximately 1.08 MAF of storage in its WSDM resource portfolio as of the beginning of CY 2009 (this figure excludes water stored for emergency purposes). Accounting for conveyance constraints, approximately 581 – 644 TAF of this amount is available in CY 2009, depending upon whether the SWP allocation is 15 percent or 50. Some of the programs have contract provisions that allow for a supply increase in relation to an increase in SWP allocation. This estimate reflects the contractual minimum amounts of the programs and/or any agreed upon increase in minimum contractual amounts with banking partners. Detailed program level estimates of operational WSDM supplies for 2009 under the current SWP allocation, along with projected storage levels, are shown in [Attachment 2](#). Metropolitan staff will continue to work cooperatively with its member agencies and other partners to ensure coordination and effective program management. [Attachment 2](#) also shows approximately 219 TAF of water supply programs that are currently under development in 2009.

Water Balance and Actions

Under the current trend demand of 2.22 MAF and with the allocated base supplies on the SWP and CRA of 1.13 MAF, there is a resulting supply gap of 1.09 MAF. Metropolitan would be required to utilize the full 581 TAF amount available (at a 15 percent SWP allocation) of WSDM actions towards meeting the current trend demand. Since the projected calendar year demand exceeds the identified WSDM actions, the additional supply needs of 508 TAF will be supplemented with the utilization of 496 TAF from the identified 2009 Five Year Supply Plan Resource Options (see [Attachment 3](#) and section below for further information). The remaining 12 TAF would be met through additional Five Year Supply Plan Resource Options, extraordinary conservation, or implementation of the Water Supply Allocation Plan. The following graphic and table both show in more detail the estimate of actions that will be taken to balance the currently allocated SWP and CRA base supplies and demand.

Date of Report: December 18, 2008

Board Report (Water Surplus and Drought Management Plan on water supply and demand as of December 18, 2008)



CY 2009 Projected Supply and Demand Table (in acre-feet)

DEMAND: CT Deliveries	2,223,000
BASE SUPPLIES (with current 15% SWP allocation)	1,134,000
Supply Gap	1,089,000

WSDM ACTIONS	581,000
<i>Transfers & Exchanges</i>	24,000
<i>Surface Water</i>	314,000
<i>Groundwater Storage</i>	118,000
<i>Central Valley Programs</i>	125,000
Additional Supply Needs	508,000
Identified 2009 Resource Options	496,000
Remaining Balance to Meet Demand*	12,000

* To be met through additional 5 yr action resources, extraordinary conservation, or potentially implementation of the water supply allocation plan.

Five-Year Supply Plan Resource Options

The Board has received reports and updates on the goals and progress of the Five-Year Supply Plan. A set of additional resource options for 2009 are being developed and are shown on [Attachment 3](#). These options could yield from 496 TAF to 1.06 MAF of additional supply if successfully implemented. The increase in yield from last month’s report is due to further development of the Colorado River programs. The resource options focus on six initiatives: extraordinary conservation, Colorado River transactions, near-term Delta actions (0 for 2009), SWP transactions, groundwater recovery, and local resources. These supplies and conservation measures would enhance water supply reliability in Metropolitan’s service area in the event that critical dry conditions and court ordered

Board Report (Water Surplus and Drought Management Plan on water supply and demand as of December 18, 2008)

restrictions on the State Water Project deliveries continue. Staff will continue to provide updates on the 2009 supply situation along with the progress and implementation of the Five-Year Supply Plan.

Summary of CY 2008

The table below summarizes the current year end estimates for CY 2008 as of December 18, 2008. The current trend demand was 2.26 MAF and the total base CRA and SWP supply was 1.48 MAF. The table shows the various WSDM actions in the amount of 783 TAF that have been taken to balance the supply and demand. A detailed breakdown of the CY 2008 base supplies and WSDM actions are included as [Attachment 4](#) of this report.

2008 Summary Table (in acre-feet)

CURRENT TREND DEMAND	2,261,000
BASE SUPPLIES	1,480,000
<i>CRA</i> 742,000	
<i>SWP (35% Table A Allocation)</i> 738,000	
WSDM ACTIONS *	781,000
Transfers & Exchanges	195,000
Surface Storage	314,000
Groundwater Storage Programs	101,000
Central Valley Banking Programs	173,000
TOTAL	783,000

* The 2 TAF difference between the supply gap and the WSDM action total is due to rounding

CY 2009 Projected CRA and SWP Supplies

Colorado River Diversion Schedule		
Basic Total Apportionment		550,000
IID-MWD Conservation Program		85,000
Water Exchanged with SDCWA (IID Transfer & All American Canal Lining)		116,000
Canal Lining Water to MWD		12,000
Central Arizona storage recovery		30,000
Lower Colorado Water Supply Project		7,000
PVID Land Following		118,000
System Efficiency ICS (Drop 2 Reservoir)		34,000
Exchange with CVWD		-10,000
MWD Water Budget Agricultural Adjustment		-123,000
<i>Priority 1,2, and 3b</i>	-119,000	
<i>Imperial ID</i>	0	
<i>Coachella Valley WD</i>	0	
<i>Misc and Indian PPR's</i>	-4,000	
Colorado River Supplies Total		819,000
State Water Project Supplies		
	15% SWP Allocation	50% SWP Allocation
MWD Table A (not including Table A to CVWD)	277,000	946,000
MWD Table A to CVWD (October 10, 2003 Delivery and Exchange Agreement)	10,000	10,000
Desert Water/Coachella Valley exchange (Table A)	26,000	86,000
San Bernardino Valley MWD Coordinated Operation Agreement	0	20,000
Port Hueneme Agreement	2,000	2,000
State Water Project Supplies Total	315,000	1,064,000
Total	1,134,000	1,883,000

WSDM Projected Supplies for CY 2009

Program	Projected 1/1/2009 Storage Levels	Amount Available at 15% SWP Allocation	Amount Available at 50% SWP Allocation	CY 2009 Put Capacity
SURFACE STORAGE	410,000	314,000	326,000	852,500
<i>Lake Mead ICS Account*</i>	66,000	0	0	200,000
<i>Castaic Lake (DWR Flex Storage)</i>	76,000	68,000	68,000	65,500
<i>Lake Perris (DWR Flex Storage)</i>	65,000	65,000	65,000	23,000
<i>Diamond Valley Lake</i>	203,000	181,000	193,000	437,000
<i>Lake Mathews & Lake Skinner (Dry-Year Storage)**</i>	0	0	0	127,000
CENTRAL VALLEY BANKING PROGRAMS	316,000	125,000	176,000	131,700
<i>Arvin Edison Storage Program</i>	155,000	34,000	38,000	45,000
<i>Semitropic Storage Program</i>	128,000	71,000	108,000	31,700
<i>Kern Delta Storage Program</i>	23,000	20,000	20,000	55,000
<i>Mojave Storage Program</i>	10,000	0	10,000	0
GROUNDWATER STORAGE PROGRAMS	349,000	118,000	118,000	76,000
CONJUNCTIVE USE PROGRAMS	168,000	105,000	105,000	51,000
<i>IEUA/TVMWD (Chino Basin)</i>	66,000	30,000	30,000	25,000
<i>Long Beach (Cent. Basin)</i>	6,000	0	0	3,000
<i>Long Beach (Lakewood)</i>	2,000	1,000	1,000	1,000
<i>Foothill (Raymond and Monkhill)</i>	1,000	1,000	1,000	2,000
<i>Calleguas (N. Las Posas)</i>	52,000	47,000	47,000	0
<i>MWDOC (Orange County Basin)</i>	39,000	25,000	25,000	15,000
<i>Three Valleys (Live Oak)</i>	1,000	0	0	1,000
<i>Three Valleys (upper Claremont)</i>	0	0	0	1,000
<i>Compton</i>	1,000	1,000	1,000	0
<i>Western</i>	0	0	0	3,000
CYCLIC PROGRAMS	13,000	13,000	13,000	0
<i>Cyclic - USG</i>	0	0	0	0
<i>Cyclic - PM (Three Valleys)</i>	13,000	13,000	13,000	0
<i>Cyclic - IEUA (Chino Basin)</i>	0	0	0	0
SUPPLEMENTAL PROGRAMS	20,000	0	0	0
<i>Supplemental Storage Program (Los Angeles)</i>	20,000	0	0	0
OTHER PROGRAMS	148,000	0	0	25,000
<i>Advance Delivery Account (DWCV) **</i>	51,000	0	0	25,000
<i>SBVMWD Coordinated Operating Agreement</i>	50,000	0	0	0
<i>Central Arizona Storage Demonstration Project **</i>	47,000	0	0	0
OTHER WSDM ACTIONS	0	24,000	24,000	0
<i>Yuba Multi Year Transfers</i>		24,000	24,000	
TOTAL	1,075,000	581,000	644,000	1,060,200

* Lake Mead, DWCV, and Central Arizona are shown as zero because it has been accounted for in base supplies.

** Lake Mathews and Skinner storage have been drawn down for operational reasons and DVL will temporarily fulfill its emergency storage role.

Programs Under Development in 2009

Program	Projected 1/1/2009 Storage Levels	Amount Available at 15% SWP Allocation	Amount Available at 50% SWP Allocation	CY 2009 Put Capacity
<i>Conj. Use - Pasadena</i>	22,000	0	0	0
<i>MWD '09 Carryover</i>	0	0	0	200,000
<i>DWCV '09 Carryover</i>	0	0	0	86,000
<i>Hayfield Storage Program</i>	100,000	0	0	0
<i>EWA Wet/Dry Exchange</i>	50,000	0	0	
<i>Sac. Valley Transfers Stored in Shasta</i>	47,000	0	0	0
TOTAL	219,000	0		286,000

2009 Resource Options

<u>Resource Options</u>	<u>Annual Yield</u>
	<u>TAF</u>
Conservation	215 – 415
CR Transactions	158 - 267
Near-Term Delta Actions	0 – 0
SWP Transactions	110 – 343
Groundwater Recovery	8 - 25
Local Resources	5 – 7
Total	496 – 1,057

2008 Summary Table (in acre-feet)

CURRENT TREND DEMAND	2,261,000
BASE SUPPLIES	1,480,000
CRA	742,000
SWP (35% Table A Allocation)	738,000
WSDM ACTIONS *	781,000
Transfers & Exchanges	195,000
Surface Storage	314,000
Groundwater Storage Programs	101,000
Central Valley Banking Programs	173,000
TOTAL	783,000

* The 2 TAF difference between the supply gap and the WSDM action total is due to rounding

CY 2008 CRA and SWP Base Supplies

Colorado River Diversion Schedule	
Basic Total Apportionment	550,000
IID-MWD Conservation Program	85,000
Water Exchanged with SDCWA (IID Transfer & Canal Lining)	81,000
Canal Lining Water to MWD	6,000
Central Arizona storage recovery	27,000
Lower Colorado Water Supply Project	7,000
PVID Land Following	82,000
Southern Nevada Water Authority Water Exchange	45,000
System Efficiency ICS (Drop 2 Reservoir)	34,000
Extraordinary Conservation ICS (Lake Mead ICS)	41,000
MWD Water Budget Agricultural Adjustment	-49,000
Priority 1,2, and 3b *	-67,830
Imperial ID	8,098
Coachella Valley WD	15,430
Misc and Indian PPR's	-4,461
Colorado River Supplies Total	909,000
Colorado River Total Base Supplies **	742,000
State Water Project Supplies	
Table A (35 percent allocation)	669,000
Turnback pool	2,000
Desert Water/Coachella Valley exchange (Table A/Turnback Pool/Non Project)	61,000
San Bernardino Valley MWD Coordinated Operation Agreement	4,000
Port Hueneme Agreement	2,000
State Water Project Supplies Total	738,000
Total	1,480,000

* This includes the anticipated decrease in the unused agricultural adjustment by the end of the year

** The base supplies figure does not include SNWA Exchange water, Central Arizona water, Drop 2 Reservoir water and the 20 TAF increase in PVID program since last year, which are included in Transfers and Exchanges total. It also doesn't include the Lake Mead ICS Extraordinary Conservation number, which is included as WSDM Surface Storage.

WSDM ACTIONS

CY 2008 WSDM Programs	1/1/2008 Storage Levels	2008 Estimated Withdrawals
SURFACE STORAGE	681,000	314,000
<i>Castaic and Perris (DWR Flex Storage)</i>	<i>204,000</i>	<i>62,000</i>
<i>Diamond Valley Lake (Dry-Year Storage)</i>	<i>390,000</i>	<i>187,000</i>
<i>Lake Mathews & Lake Skinner (Dry-Year Storage)</i>	<i>41,000</i>	<i>24,000</i>
<i>Lake Mead ICS Account*</i>	<i>46,000</i>	<i>41,000</i>
CENTRAL VALLEY BANKING PROGRAMS	488,000	173,000
<i>Arvin Edison Storage Program</i>	<i>189,000</i>	<i>35,000</i>
<i>Semitropic Storage Program</i>	<i>249,000</i>	<i>121,000</i>
<i>Kern Delta Storage Program</i>	<i>31,000</i>	<i>8,000</i>
<i>Mojave Storage Program</i>	<i>19,000</i>	<i>9,000</i>
GROUNDWATER PROGRAMS	303,000	101,000
<i>Conjunctive Use Programs</i>	<i>214,000</i>	<i>46,000</i>
<i>Supplemental Storage Programs</i>	<i>27,000</i>	<i>7,000</i>
<i>Cyclic Groundwater Storage</i>	<i>62,000</i>	<i>48,000</i>
TRANSFERS & EXCHANGES		195,000
<i>CRA</i>	<i>n/a</i>	<i>126,000</i>
<i>SWP - North of Delta</i>	<i>n/a</i>	<i>60,000</i>
<i>SWP - South of Delta</i>	<i>n/a</i>	<i>9,000</i>
SUBTOTAL	1,472,000	783,000
WSDM Actions Not Accounted for Above	293,000	0
<i>Advance Delivery Account (DWCV) **</i>	<i>121,000</i>	<i>0</i>
<i>Central Arizona Storage Demonstration Project ***</i>	<i>72,000</i>	<i>0</i>
<i>SBVMWD Coordinated Operating Agreement ***</i>	<i>50,000</i>	<i>0</i>
<i>EWA Wet/Dry Exchange</i>	<i>50,000</i>	<i>n/a</i>
TOTAL	1,765,000	783,000

* Lake Mead ICS withdrawals are accounted for as part of MWD's total approved CRA diversions. Actual account balances are reconciled by USBR at the

** DWCV is shown as zero because it has been accounted for in base supplies.

*** Central Arizona and SBVMWD COA are shown as zero because they have been accounted for in Transfers & Exchanges.